



Division of Fisheries & Wildlife

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STATUS OF PIPING PLOVERS IN MASSACHUSETTS - 1993 SUMMARY

Observers reported a total of 289 breeding pairs of Piping Plovers (Charadrius melodus) at 67 sites in Massachusetts in 1993 (Table 1). Breeding pairs are defined as pairs observed with either a nest or unfledged chicks or that exhibit site tenacity and evidence of pair bonding and territoriality. Observer effort in 1993, measured as number of sites surveyed and intensity of census effort at each site, was roughly comparable to previous efforts since 1986. In at least 4 instances, pairs that nested unsuccessfully were believed to have moved to new sites and renested. These pairs were included in counts of pairs at both sites where they nested, but were tallied only once in the overall state total (Table 1). Also not included in the state total were 2 birds seen for only 2 days at Smith Point on Nantucket, and a late pair that defended a territory at Eel Point, Nantucket, between 4 and 17 July.

The 1993 total of 289 pairs is the highest count of Piping Plovers recorded in Massachusetts since comprehensive statewide surveys began in 1985, and represents an increase of 76 pairs (36%) over the 1992 count of 213 pairs (Table 2). Number of pairs increased in 7 of 9 regions of the state (Table 3).

In addition to estimating total pairs present during the breeding season, cooperators also censused pairs at all occupied sites and 27 historic or potential sites during this year's standardized "index count" period of 29 May to 6 June. The intent of the index count is to minimize double-counting of pairs that move between sites, thereby providing an index to population trends that is more precise than the total count. The 1993 index count was 258 pairs, 89% of the total count of 289 pairs and a 25% increase over the 1992 index count of 207 pairs.

Mean number of pairs per occupied site in 1993 was 4.3 (range = 1 - 18). Maximum numbers of pairs occurred at Crane Beach (18), Sandy Neck (15), the South Beach of the North District of Cape Cod National Seashore (15), South Beach Island (13), Plover Island (12), Little Beach/Barney's Joy (11), Nauset Beach-Chatham (10), and Nauset Spit (10). Forty of 67 sites had ≤ 3 pairs and accounted for 22% of all pairs.

Overall mean productivity for Massachusetts in 1993 was 1.92 chicks fledged per pair, based on data from 264 of 289 pairs (91%) at 60 of 67 sites (90%) (Table 2). A chick was considered fledged if it survived ≥ 25 days or was observed in flight, whichever came first. Productivity estimates for specific regions of the state all exceeded 1.7 chicks fledged/pair, with the exception of Nantucket (1.09) (Table 3).

Cooperators reported data on hatching and fledging success for 270 nest attempts. Hatching success was 0.66 (656 of 996 eggs hatched) and fledging success was 0.65 (429 of 656 chicks survived to fledge).

Again in 1993, many individuals, federal, state, county, and town government entities, and private conservation organizations participated in and contributed to conservation efforts on behalf of Piping Plovers and other coastal birds in Massachusetts. Our sincere thanks to all.

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Table 1. Abundance, distribution, and productivity of Piping Plovers in Massachusetts, 1993.

Location	Number of pairs		No. chicks fledged ^c	No. pairs for which fledge data reported	Source ^d
	Index count ^a	Total count ^b			
NORTH SHORE					
Salisbury Beach, Salisbury	nd	nd ^e	nd	nd	-
Parker River NWR, Newbury/Rowley	6	8 ^f	15	8 ^f	JHe, RS
Sandy Point St. Res., Ipswich	2	2 ^f	6	2 ^f	JHe, RS
Crane Beach, Ipswich	17	18 ^f	35	18 ^f	DR
SOUTH SHORE					
Third Cliff, Scituate	2	3	5	3	HL, SH
Fourth Cliff, Scituate	0	0	-	-	SH
Duxbury Beach, Duxbury	3	4	8	4	HL, SH
Plymouth Beach, Plymouth	4	4	4	4	JC, HL
Ellisville State Park, Plymouth	1	1	2	1	HL, SH
Scusset Beach, Sagamore	3	4	9	4	MM, SH
UPPER CAPE					
Black Beach/Sippewisset, W. Falmouth	1 ^g	1 ^g	nd	nd _h	DB, BB
Washburn Island, Falmouth	1	1 ^h	3	1 ^h	FL
South Cape Beach, Mashpee	2	3 ^h	4	3 ^h	FL
Popponesset Beach, Mashpee	2	3	nd	nd	MM, SH
Town Neck Beach, Sandwich	1	2	nd	nd	MM, SH
Springhill Beach, Sandwich	2	2	2	1	MM, SH
East Sandwich Beach, Sandwich	0	1	2	1	ES
Scorton Creek, Sandwich	5	5	9	5	ES
Sandy Neck, Barnstable	15	15	37	15	ES
Sampson's Is.-Dead Neck, Barnstable	3	6	1	6	WP
Long Beach, Barnstable	1	1	3	1	LB
Kalmus Park Beach, Hyannis	2	2	0	2	LB
Gray's Beach, Yarmouth	3	3	nd	nd	SH
Seagull Beach, Yarmouth	2	2	4	2	HB
Radio City, Yarmouth	0	0	-	-	LB

Table 1. Continued.

Location	<u>Number of pairs</u>		No. chicks fledged	No. pairs for which fledge data reported	Source
	Index count	Total count			
Great Island, Yarmouth	2	3	4	3	LB
West Dennis Beach, Dennis	0	0	-	-	LB
Chapin Beach, Dennis	0	0	-	-	ES
Quivett Creek, Brewster	0	nd	nd	nd	HB, SM
Wings Island, Brewster	nd	nd	nd	nd	-
Town Beach, Brewster	0	nd	nd	nd	HB, SM
Namskaket Creek, Brewster	0	nd	nd	nd	HB, SM
LOWER CAPE					
Forest Beach, Chatham	nd	nd	nd	nd	-
Cockle Cove, Chatham	nd	nd	nd	nd	-
Harding Beach, Chatham	1	1	4	1	EB
Harding Beach Point, Chatham	0	0	-	-	EB
North Monomoy Island, Chatham	0	0	-	-	SW
South Monomoy Island, Chatham	2	4	8	4	SW
South Beach Island, Chatham	13	13	28	13	EB
Tern Island, Chatham	0	0	-	-	EB
Nauset Beach, Chatham	10	10	20	10	MG
Nauset Beach, Orleans	6	6 ⁱ	16	6 ⁱ	MG
Nauset Spit (Heights), Orleans	9	10 ⁱ	14	10 ⁱ	MG
New Island, Orleans	0	0 ⁱ	-	-	SH
Plover Island, Orleans/Eastham	9	12 ⁱ	22	12 ⁱ	MG
Coast Guard Beach, Eastham	7	8	10	8	JB, KJ
Marconi Beach, Wellfleet	9	9	22	9	JB, KJ
Great Island, Wellfleet	0	1	0	1	JB, KJ
Jeremy Point, Wellfleet	5	5	11	5	JB, KJ
Pamet Harbor, Truro	0	0	-	-	EB
Beach Point, Truro	0	0	-	-	EB
Corn Hill Beach, Truro	0	0	-	-	EB
Pilgrim Beach, Truro	0	0	-	-	EB

Table 1. Continued.

Location	Number of pairs		No. chicks fledged	No. pairs for for which fledge data available	Source
	Index count	Total count			
9 Ballston Beach, Truro	1	1	3	1	EH, KJ
10 High Head, Truro	8	8	23	8	EH, KJ
11 South Beach, Provincetown/Truro ^k	13	15	25	15	EH, KJ
12 Race Point/North Beach, Provincetown	5	6	12	6	EH, KJ
13 Long Pt. (Wood End), Provincetown	7	7	18	7	EH, KJ
BUZZARDS BAY					
14 Stony Point Dike, Wareham	2	2	nd	nd	ES
15 Long Beach Point, Wareham	nd	nd	nd	nd	-
16 Little Harbor Beach, Wareham	nd	nd	nd	nd	-
17 West Island, Fairhaven	2	3	7	3	SD, JH
18 Winsegansett Heights, Fairhaven	1	1	0	1	SD, JH
19 Round Hill Beach, Dartmouth	1	1	nd	nd	SD, JH
20 Salter's Pond, Dartmouth	0	0	-	-	SD, JH
21 Demarest-Lloyd State Park, Dartmouth	0	0	-	-	SD, JH
22 Little Beach/Barney's Joy, Dartmouth	8	11	22	10	SD, JH
23 Gooseberry Neck, Westport	2	2	3	2	SD, JH
24 Horseneck Beach, Westport	3	4	7	4	SD, JH
25 Acoaxet, Westport	0	0	-	-	SD, JH
26 Cockeast Pond, Westport	0	0	-	-	SD, JH
27 Richmond Pond, Westport	1	1	1	1	SD, JH
28 Bay Point, Swansea	0	0	-	-	AW
MARTHA'S VINEYARD/ELIZABETH ISLANDS					
29 Harthaven, Oak Bluffs	2	2	5	2	CC, DS
30 Eel Pond/Little Beach, Edgartown	0	0	-	-	RJ
31 Silvia State Beach, Edgartown	0	0	-	-	CC
32 Tisbury Great Pond (Quansoo), Chilmark ^l	3	4	6	4	DS, TC, LJ
33 Edgartown Great Pond, Edgartown	2	2	4	2	DS

Table 1. Continued.

Location	Number of pairs		No. chicks fledged	No. pairs for for which fledge data reported	Source
	Index count	Total count			
1 Norton Point, Edgartown	3	4	4	4	CC, DS, RC
2 Wasque, Chappaquiddick	2	2	1	2	LJ, DK
3 East Beach, Chappaquiddick	1	1	4	1	LJ, DK
4 Cape Pogue, Chappaquiddick	2	2	3	2	LJ, DK
5 Squibnocket, Chilmark	1	1	4	1	DS
6 Long Beach, Gay Head	3	3	8	3	DS
7 Dogfish Bar/Lobsterville, Gay Head	4	4	5	4	DS
8 Tashmoo, Tisbury	2	2	4	2	DS, CC
9 Nomans Land	nd	nd	nd	nd	-
10 Naushon Island	nd	0	-	-	JHa
11 Pasque Island	5 ^m	5	6	3	JHa
12 Nashawena Island	2	2	4	1	JHa, DK, RN
13 Cuttyhunk Island	5	5	9	4	SM, SL
NANTUCKET					
14 Great Point	7	7	5	7	TW
15 The Galls	1	1	0	1	TW
16 Coskata North Beach ⁿ	1	1	4	1	TW
17 Coskata Inlet and The Haulover	0	0	-	-	TW
18 Quidnet	0	0	-	-	TW
19 Siasconset Beach	0	0	-	-	TW
20 Low Beach	1	1	0	1	TW
21 Tom Nevers Head	0	0	-	-	TW
22 Surfside	0	0	-	-	TW
23 Smith Point	0 ^o	0 ^o	-	-	TW
24 Eel Point	1	2 ^p	3	2 ^p	KC
25 Tuckernuck Island	nd ^q	0	-	-	TW, TC, NJ, VG

Table 1. Continued.

Location	<u>Number of pairs</u>		No. chicks fledged	No. pairs for which fledge data reported	Source
	Index count	Total count			
Muskeget Island	5	7	nd	nd	ML, TC
TOTALS	<u>258</u>	<u>289</u>	<u>508</u>	<u>264</u>	

^a Index count = total territorial pairs counted between 29 May and 6 June 1993, the standard Atlantic coast index count period.

^b Total count = total number of territorial pairs present during all or a portion of the 1993 breeding season.

^c Fledging is defined as chicks \geq 25 days of age or observed in flight, whichever comes first.

^d Key to sources: AW = Anthony Waring, BB = Brad Blodget, CC = Catherine Cook-Holmes, DB = Diane Boretos, DK = Delia Kaye, DR = David Rimmer, DS = Deborah Swanson, EB = Ellen Bentley, EH = Ed Hoopes, ES = Eric Strauss, FL = Francis LeBaron, HB = Henry Barbour, HL = Heather Leslie, JB = Jennifer Brown, JC = John Crane, JH = John Hill, JHa = Jeremy Hatch, JHe = Joann Healey, KC = Karen Combs-Beattie, KJ = Kyle Jones, LB = Lorraine Burns, LJ = Luanne Johnson, MG = Mark Genaris, ML = Marcia Litchfield, MM = Mavis MacNeil, NJ = Nan Jenks-Jay, RC = Robert Culbert, RJ = Richard Johnson, RK = Ryland Knott, RS = Robert Springfield, SD = Stacey D'Angona, SH = Scott Hecker, SL = Susan Langlois, SM = Scott Melvin, SW = Sharon Ware, TC = Tom Chase, TW = Tina Whitman, VG = Victoria Gullikson, WP = William Peacock.

^e nd = no data available.

^f One pair was believed to have moved from Parker River NWR to Crane Beach; it is only tallied once in state total and total pairs for which fledging data were reported.

Table 1. Continued.

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- ^g The pair that nested unsuccessfully at Black Beach was believed to be the pair that subsequently nested on the south spit at the mouth of Sippewissett Creek. Reproductive success of this pair is uncertain.
- ^h One unsuccessful pair at South Cape Beach was believed to have moved to Washburn Island and re-nested. This pair is only tallied once in state total and total number of pairs for which fledging data were reported.
- ⁱ Plover Island was formerly the north end of Nauset Spit; it was created when Nauset Spit breached during winter 1993. One unsuccessful pair from Plover Island moved to Nauset Spit and re-nested unsuccessfully. This pair is only tallied once in state total count and total number of pairs for which fledging data are reported.
- ^j Includes LeCount Hollow.
- ^k South Beach includes all of outer beach of Cape Cod National Seashore between High Head and Race Point Beach, including locations referred to as Mission Bell, Frenchie's, Exit 9, and Armstrong Cut in previous years.
- ^l Includes Long Point Wildlife Refuge and Lewis property.
- ^m Index count was made on 12 June on Pasque Is. Presence of eggs or chicks confirmed that ≥ 4 of 5 pairs were present during the index count period (29 May - 6 June).
- ⁿ Coskata North Beach was included as part of The Galls in previous years.
- ^o One or 2 birds were present at Smith Point for several days, including 22-23 June, but were not monitored enough to determine if they were territorial. These birds may have moved to Eel Point.
- ^p The second pair of plovers at Eel Point defended a territory from 4 to 17 July. No evidence of breeding was discovered. This pair is included in the site total but not the state total; we assume this late-arriving pair had relocated from another site.

Table 1. Continued.

^a Tuckernuck Island was not visited during the index count period; however, a local resident observed a single bird on 11 and 12 June, reported to Tina Whitman. The island was completely censused on 5 July, but no plovers were seen.

Table 2. Summary of abundance and productivity of Piping Plovers in Massachusetts, 1986-1993.

Year	Total count ^a	Index count ^b	Mean chicks fledged/pair	No. (% of total) pairs with fledge data
1993	289	258	1.92	264 (91)
1992	213	207	2.03	206 (97)
1991	160	148	1.72	156 (98)
1990	140	111	1.38	125 (89)
1989	137	-	1.59	123 (90)
1988	134	-	1.29	114 (85)
1987	126	-	1.07	89 (71)
1986	139	-	-	-
1985	131	-	-	-

^a Total count = best estimate of total territorial pairs present during all or a portion of the breeding season.

^b Index count = total territorial pairs counted during 9-day standardized count period (29 May - 6 June 1993).

Table 3. Summary of piping plover abundance (total pairs) and productivity (mean number of chicks fledged per pair) by region of Massachusetts, 1992 and 1993.

Region	Total pairs		Mean chicks fledged/pair	
	1992	1993	1992	1993
North Shore	23	27	2.29	2.07
South Shore	10	16	1.50	1.75
Upper Cape	32	49	1.97	1.77
Lower Cape	84	115	2.26	2.05
Buzzards Bay	26	25	1.42	1.90
Elizabeth Islands	11	12	2.14	2.38
Martha's Vineyard	12	27	1.75	1.78
Nantucket	9	11	1.75	1.09
Tuckernuck, Muskeget Is.	7	7	2.00	nd ^a
Totals	213	289	2.03	1.92

^a nd = no data available